



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/565,731

01/24/2006

Samuel Neto

13111-00031-US1

1964

23416 7590 12/10/2008  
CONNOLLY BOVE LODGE & HUTZ, LLP  
P O BOX 2207  
WILMINGTON, DE 19899

EXAMINER

NGUYEN, COLETTE B

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

12/10/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,731	<b>Applicant(s)</b> NETO ET AL.	
	<b>Examiner</b> COLETTE NGUYEN	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |



## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1793

**Claims 1-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Eberle et al. in view of Okazaki et al. (4,510,274).

Eberle teaches a catalyst composition to be used in a gas phase oxidation of saturated, unsaturated hydrocarbons and aromatic hydrocarbon, selected from xylene, naphthalene or a mixture thereof, to produce carboxylic acids and/or carboxylic anhydrides. The catalyst is formed by using a support with a coated composition of titanium oxide (TiO<sub>2</sub>) and Vanadium Pentoxide (V<sub>2</sub>O<sub>5</sub>), forming in situ in a tube reactor in an aqueous solution of an organic copolymer binder of vinyl acetate/ethylene. Eberle does not specifically teach that the copolymer binder of vinyl acetate/ethylene has a vinyl acetate content of at least 62 mol% or 63-70 mol%.

Okazaki teaches that an aqueous emulsion adhesive composition of vinyl acetate-ethylene comprises 60-90% of vinyl acetate and 5-40% of ethylene by weight, the high content of vinyl acetate preferred for improving the adhesive property (Col 4, lines 9-14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the vinyl acetate/ethylene copolymer binder in the catalyst composition of Eberle of 60-90% of vinyl acetate and 5-40% of ethylene by weight, as taught by Okazaki, as compositions of vinyl acetate/ethylene copolymer used for providing an aqueous emulsion adhesive composition. The high content of vinyl acetate is preferred for improving the adhesive property. By providing a vinyl acetate/ethylene copolymer binder of 60-90% of vinyl acetate and 5-40% of ethylene by weight as taught

Art Unit: 1793

by Okazaki, a copolymer of at least 62 mol% vinyl acetate or 63-70 mol% vinyl acetate, as claimed, is obviously provided.

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir.1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malaqari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

12. Regarding claims 5,12 and 17. Eberle teaches 5-90% by weight of  $\text{TiO}_2$ , comparing to 60-99% by weight as claimed. Also, for  $\text{V}_2\text{O}_5$  the percent by weight is 1-50%, comparing to 1- 40% by weight as claimed. The parameters and compositions encompass or overlap the parameters and the compositions of the instant claims.

13. Regarding claims 6 and 14. Eberle teaches a use of promoters' such as Cs compound of 0.01-1.0 wt% and P compound at 0.01-10 wt%, and up to 10% by weight of antimony ( $\text{Sb}_2\text{O}_3$ ). (Col.3, line 39-47). The parameters encompass the parameters of the instant claims.

14. Regarding Claims 7 to 9. Eberle teaches a process for preparing acid anhydrides using the coated catalysts with o-xylene and naphthalene and an air stream charged to the reactor at 300C. (Col. 3,4). Furthermore, Eberle also specifies that the catalysts are formed in situ by burning out the binder. The process taught by Eberle encompasses the claimed process.

Art Unit: 1793

15. Regarding claim 13. Eberle teaches a fixed bed reactor with two bed packing where the support bodies of different shape and size are in layers and different concentration and compositions of the active components are to be expected. (Co14.1 line 25-30 and Col 6, line 57). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teaching of Eberle to optimize the conversion by loading more  $\text{TiO}_2$  at the upstream of the reactor. In view that,

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malaqari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05

### ***Response to Arguments***

4. Applicant's arguments filed on 9/11/08 have been fully considered but they are not persuasive as Okazaki already suggests to use 60-90 wt% of vinyl acetate which is equivalent to molar percentages within the range of at least 62% mol % as the instant claim. Furthermore, the comparative evidence in Tables 1 and 2 referred to in the arguments is not commensurate with the claimed range. The Tables only show difference between 60 mol% versus 63 mol% and 67 mol%. There is no indication that there is any substantial difference between 60 mol % and 62 mol%, the claimed lower limit; also, there is not shown any substantial difference between 60 mol% and mole

Art Unit: 1793

percents up to nearly 100 mol% (the claim is "at least 62 mol%"). Applicant has not presented any arguments that it would not be obvious to use the adhesive composition as taught by Okazaki as the binder for the catalyst composition of Eberle nor presented any arguments that ethylene-vinyl acetate which comprises 60-90 wt % vinyl acetate does not correspond to mol percents of vinyl acetate within the claimed range of at least 62 mol %.

5. As to the lower hydrogen consumption being argued, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Okazaki suggests the binder composition and the lower hydrogen consumption is merely another recognized advantage which would flow from the suggestion of the prior art.

### ***Conclusion***

1. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



Art Unit: 1793

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLETTE NGUYEN whose telephone number is (571)270-5831. The examiner can normally be reached on Monday-Thursday, 10:00-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curt Mayes can be reached on (571)-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/565,731

Page 8

Art Unit: 1793

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLETTE NGUYEN/  
Examiner, Art Unit 1793

CN  
December 7, 2008

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1793